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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,979	01/09/2002	John P. Dilger	06005/37770	6666
4743	7590	08/24/2004	EXAMINER	
MARSHALL, GERSTEIN & BORUN LLP 6300 SEARS TOWER 233 S. WACKER DRIVE CHICAGO, IL 60606			TSAI, CAROL S W	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. <u>10/042,979</u>	Applicant(s) DILGER, JOHN P.	
	Examiner Carol S Tsai	Art Unit 2857	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4-7,9-14,22,23 and 25 is/are allowed.
- 6) ☒ Claim(s) 15,16,19,20 and 24 is/are rejected.
- 7) ☒ Claim(s) 17,18 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>02/02/04</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

### DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,733,436 to Demisch et al.

Demisch et al. disclose a method for determining fault conditions of a chemical detection system, the method comprising the steps of: performing diagnostic routines on the chemical detection system, the diagnostic routines comprising controlling the exposure of a chemical sensor and taking measurement of surrounding environmental conditions (see Abstract, lines 6-11; col. 2, lines 21-23; col. 3, lines 13-19; and col. 5, lines 9-15); measuring the response of a chemical sensor to the controlled exposure and the surrounding environmental conditions (see col. 2, lines 26-45 and col. 3, lines 21-55); storing response data in a memory device and generating diagnostic data from the response data (see Abstract, lines 11-13; col. 2, lines 23-24; and col. 3, lines 19-21).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Demisch et al. in view of U. S. Patent No. 4,703,646 to Müller et al.

As noted above, Demisch et al. disclose the claimed invention, except for measuring an ambient temperature and measuring the absolute frequency shift of the chemical sensor.

Müller et al. teach measuring an ambient temperature and measuring the absolute frequency shift of the chemical sensor (see col. 3, lines 37-52 and col. 6, lines 23-31).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Demisch et al.'s method to include measuring an ambient temperature and measuring the absolute frequency shift of the chemical sensor, as taught by Müller et al., in order that a phase shift between the modulated sensor temperature and the response of the gas sensor can be evaluated.

6. Claims 19, 20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Demisch et al. in view of EP 841563 to Lindsay.

As noted above, with respect to claims 19 and 20, Demisch et al. disclose the claimed invention, except for measuring the response of the chemical sensor to the controlled exposure being comprised of quantifying chemical sensor noise.

Lindsay teaches measuring the response of the chemical sensor to the controlled exposure being comprised of quantifying chemical sensor noise (see col. 4, line 15 to col. 5, line 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Demisch et al. method to include measuring the response of the chemical sensor to the controlled exposure being comprised of quantifying chemical sensor noise, as taught by Lindsay, in order that fault condition of gas detecting apparatus can be determined.

As to claim 24, Demisch et al. also disclose a method for verifying the operation of a chemical detection system, the method comprising the steps of: performing diagnostic routines on the chemical detection system, the diagnostic routines comprising controlling the exposure of a chemical sensor and taking measurement of surrounding environmental conditions (see Abstract, lines 6-11; col. 2, lines 21-23; col. 3, lines 13-19; and col. 5, lines 9-15); measuring the response of a chemical sensor to the controlled exposure and the surrounding environmental conditions (see col. 2, lines 26-45 and col. 3, lines 21-55); storing response data in a memory device and generating diagnostic data from the response data (see Abstract, lines 11-13; col. 2, lines 23-24; and col. 3, lines 19-21).

Demisch et al. do not disclose measuring the response of the chemical sensor to the controlled exposure being comprised of quantifying chemical sensor noise wherein quantifying chemical sensor noise is accomplished by comparing an absolute arithmetic difference to at least one noise threshold value, the noise threshold value providing a graduated fault condition.

Lindsay teaches measuring the response of the chemical sensor to the controlled exposure being comprised of quantifying chemical sensor noise wherein quantifying chemical sensor noise

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is accomplished by comparing an absolute arithmetic difference to at least one noise threshold value, the noise threshold value providing a graduated fault condition (see col. 4, line 15 to col. 5, line 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Demisch et al.'s method to include measuring the response of the chemical sensor to the controlled exposure being comprised of quantifying chemical sensor noise wherein quantifying chemical sensor noise is accomplished by comparing an absolute arithmetic difference to at least one noise threshold value, the noise threshold value providing a graduated fault condition, as taught by Lindsay, in order that fault condition of gas detecting apparatus can be determined.

***Allowable Subject Matter***

7. Claims 17, 18, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 1, 2, 4-7, 9-14, 22, 23, and 25 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter:

Publication 2003/0052083 to Kim et al. in view of U. S. Patent No. 6,272,938 to Baghel et al. are references closest to the claimed invention. Kim et al. in combination with Baghel et al. disclose an apparatus for diagnosing a chemical detection system comprising: a sample retrieval device for collecting and detecting emissions, wherein the sample retrieval device includes an accumulator chamber having a sample port for receiving the emission from an emission source, a

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chemical sensor located within the accumulator chamber for detecting the emission, and an exhaust port for exhausting the detected emission; and a control module containing a first operational mode to control the sample retrieval device and a second operational mode to perform a diagnostic routine to validate the performance of the sample retrieval device.

However, Kim et al. in combination with Baghel et al. do not teach the diagnostic routine comprising confirming the flow of the emission and a flow of an atmosphere that does not contain a substantial amount of the emission into the chemical detection system, the control module further comprising a diagnostic routine validating the operation of the chemical sensor within the chemical detection system; and including all of the other limitations in the respective independent claims.

#### *Response to Arguments*

10. Applicant's arguments with respect to claims 15, 16, 19, and 20 have been considered but are moot in view of the new ground(s) of rejection.

#### *Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. W. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax number for TC 2800 is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (571) 272-1585 or (571) 272-2800.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

Carol S. W. Tsai

08/18/04

  
MARC S. HOFF  
SUPERVISORY PATENT EXAMINER  
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